

## REMARKS

Claims 1- 51 are pending in the present Application. No claims have been added, claims 23 – 48 and 50 – 51 have been cancelled or amended leaving Claims 1-22 and 49 for consideration upon entry of the present Amendment.

### Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1 – 22 and 49 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 6,936,233 to Smalley et al. (“Smalley”) in view of U.S. Publication No. 2003/0213939 A1 to Narayan et al. (“Narayan”) and further in view of U.S. Publication No. 2002/0183438 A1 to Amarasekera et al. (“Amarasekera”). (Office Action dated 12/16/2005, page 2) Applicants respectfully traverse this rejection.

The Examiner has stated Smalley teaches at Col. 39, lines 58 – 65 that the carbon nanotube structural constituent may be uniformly mixed with a matrix material precursor (polymer solution). (Office Action dated 06/06/2006, page 4)

The present application claims an electrically conductive precursor composition that comprises an organic polymer precursor; a single wall nanotube composition, wherein the single wall nanotube (SWNT) composition contains at least 0.1 wt% of production related impurities; and an optional nanosized conductive filler.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Smalley is directed to a process for purifying SWNTs that are substantially free of other material. (Abstract; Col. 2, lines 39-43) Smalley teaches composite materials containing carbon nanotubes. (Col. 37, lines 49 – 50) Smalley teaches that the composite materials contain a

matrix material that gives the bulk material its final form. (Col. 38, lines 1 – 7) Among these known matrix materials are resins (polymers), both thermosetting and thermoplastic. (Col. 38, lines 10 – 12) Smalley lists a number of thermosetting and thermoplastic polymers. (Col. 38, lines 13 – 21) While Smalley does teach a number of polymers that can be used to create composites, it does not teach the use of an organic polymer precursor as presently claimed. As described in the specification in paragraph [0016], a polymer precursor can be a monomer, a dimer, a trimer, or an oligomeric reactive species having less than 40 repeat units. The polymer precursor has to be polymerized to form a polymer. For this reason at least, Smalley does not teach all elements of the claimed invention.

In response to the Examiner's statement that Smalley teaches that the carbon nanotube may be uniformly mixed with a matrix material precursor (polymer solution), the Applicants would like to point out that a polymer solution does not contain organic polymer precursors as presently claimed and defined. The matrix material precursors are not the same as the presently claimed organic polymer precursors. Smalley provides no evidence that the matrix material precursors encompass reactive species that can be polymerized into polymers. Smalley does not discuss organic polymer precursors in its text in the same context that they are presently claimed in..

The polymer solutions of Smalley that the Examiner has alluded to are polymers that are dissolved in non-reactive monomers (solvents). These solvents are dissimilar from the organic polymer precursors presently claimed. The organic polymer precursors of the claimed invention can be reacted to form polymers while the non-reactive monomers of Smalley's polymer solutions cannot be reacted to from polymers.

Narayan is directed to electrically conductive polymeric foams and elastomers. (Abstract) Narayan discloses a polymeric foam or elastomer comprising "carbon nanotubes" defined as vapor grown carbon nanofibers and multi-wall and single-wall carbon nanotubes. Narayan, like Smalley teaches the use of thermoplastic or thermosetting resins that may be used in the foams. (see page 1, paragraph [0009]. The Examples of Narayan are all directed to polymer resins that are subsequently blended with the carbon nanotubes. Narayan, like Smalley does not teach the use of an organic polymer precursor and therefore does not teach all elements of the claimed invention. Narayan therefore does not make up for the deficiency of Smalley.

In addition, Narayan cannot be used as a reference under 35 U.S.C. § 102(b) in the obviousness rejection since it was published after the present application was filed. It can only be used as a reference under 35 U.S.C. § 102(e). Thus the proper obviousness rejection should have been made under 35 U.S.C. § 103(c) and not under 35 U.S.C. § 103(a).

It is also submitted that Amarasekera was published less than a year before the filing of the present application and is therefore not a reference under 35 U.S.C. § 102(b), but would be available as a reference under 35 U.S.C. § 102(e). The present application was filed on 29<sup>th</sup> September 2003, while the Amarasekera reference was published on December 5, 2002. Since the reference applies as a 35 U.S.C. § 102(e) reference, the obviousness rejection should have been made under 35 U.S.C. § 103 (c) and not under 35 U.S.C. § 103 (a).

Applicants also respectfully submit that Amarasekera is unavailable as prior art. 35 U.S.C. § 103(c)(1) provides:

Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Both the present application and Amarasekera are under obligation of assignment to the General Electric Company. For these reasons, Applicants submit that Amarasekera cannot be relied on as prior art for the § 103(a) rejection.

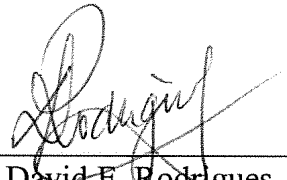
Since the combined teachings of Smalley and Narayan fail to disclose all elements of the claimed invention and since Amarasekera is unavailable as prior art under 35 U.S.C. § 103 (c), Applicants respectfully submit that the Examiner has not made a prima facie case of obviousness over Smalley in view of Narayan and Amarasekera. For at least these reasons, reconsideration and withdrawal of the obviousness rejection are respectfully requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the objection(s) and rejection(s) and allowance of the case are respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-1131.

Respectfully submitted,

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